Keeping IT Clean: Monitoring Hand Hygiene with RTLS

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DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.

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Conflict of Interest

Bobbie Lueking, RN, BSN

Has no real or apparent conflicts of interest to report.
Learning Objectives

1. Describe the effectiveness of RTLS monitoring compared to the “secret shopper” method of directly observing hand hygiene

2. Interpret statistical analysis from College Station’s hand hygiene study

3. Recognize how continuous monitoring and feedback helped improve overall hand hygiene participation at College Station
An Introduction to the Benefits Realized for the Value of Health IT

| S | Satisfaction:  |
|   | Patient; Provider; Staff; Other |
| T | Treatment / Clinical:  |
|   | Safety; Quality of Care; Efficiency |
| E | Electronic information / Data:  |
|   | Evidence Based Medicine; Data Sharing and Reporting |
| P | Prevention and Patient Education:  |
|   | Prevention; Patient Education |
| S | Savings:  |
|   | Financial / Business; Efficiency Savings; Operational Savings |
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Director Medical/Surgical/Oncology and My Orthopedic Solution Team (MOST) Community Care Champion

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Who is College Station Medical Center?

• 167-bed Acute Care Facility
• Official healthcare provider of Texas A&M Athletics
• Licensed Level III Trauma Unit
• Level II NICU
• N.I.C.H.E Designation
• Accredited Chest Pain Center
• Certified Primary Stroke Center
• Orthopedic Unit - Marshall Steele
• Accredited Sleep Center
HAIs: A Challenge in Healthcare

Healthcare Associated Infections (HAIs) are a pervasive and growing threat to patient and healthcare professional safety, as well as hospital profitability.

The CDC Estimates

722,000 People Acquire HAIs

One Out of Every 25 Patients

75,000 People Die Annually from HAIs

That’s Equivalent to One Commercial Airline Crash Every Day

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Why We Decided to Pilot RTLS Hand Hygiene Monitoring

• The Joint Commission recommendation: Collect hand hygiene data accurately and frequently, using a system to determine compliance scores in real-time.*

Existing RTLS in Place for Patient Satisfaction Initiatives

- Originally integrated with Nurse Call System
  - Hands-free Call Cancellation & Call Lights

Patient places call  Nurse enters room  Hallway lights update  Call automatically cancelled  Response times recorded
Automated Rounding Reports

Room Rounding Log

Provides an hourly log of the badge types that entered a selected location (or set of locations) during a specific period of time and indicates how long they remained.

Filters for this report: N3 Nursing
Min. Time In Area: 15

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Example data
Hand Hygiene Monitoring

1. Each caregiver is assigned a small, personalized badge.

2. Automatically records each time touchless soap/sanitizer dispenser is activated or hand hygiene opportunity is missed.

3. Transmits caregiver’s individual badge information, time stamp, and location to overhead sensor.

4. Automatically generates hygiene participation reports according to hospital protocol.
Goals for the Project

• Increased hand hygiene compliance
• Deploy automation vs. “secret shopper”
  – More data points
  – More accurate HH information
• Become a “Best Practice” for The Joint Commission and CHS hospital systems
• Showcase CSMC locally and regionally with media as providing cutting edge technology to improve outcomes for our patients.
Project Involvement

- Chief Nursing Officer
- Assistant Chief Nursing Officer
- Facilities Officer
- Plant Operations Manager
- Material Management
- Chief Executive Officer
- IT Director
- Director of Medical/Surgical/Oncology unit
- Infection Control Nurse
- Nurse Call System Integrator
- RTLS Vendor
- Hand Hygiene Dispenser Vendor
Designated Area For Hand Hygiene Pilot

- 8 Bed In-Patient Rehab Unit
- 11 Bed Medical Unit
- 21 Bed Surgical/Oncology Unit
Hand Hygiene Pilot Evaluation Timeline

- **Pre-Install Planning**
  - December 2013

- **Installation**
  - March 2014

- **Baseline Study**
  - April 7, 2014

- **Individual Feedback**
  - May 26, 2014

- **Group Feedback**
  - May 12, 2014

- **Informed Staff**
  - April 25, 2014

- **Learning and Ongoing System Use**
Pre-Planning & Installation

• Several planning meetings
• Where to place dispensers for optimal use
Baseline Study

• Conducted two weeks after dispenser installation
• Did not inform staff as to their use
• Staff unaware of system “rules”
• Collected data
• Surprisingly low, lower than secret shopper data
Informed Staff

• 1-Day in-service to educate staff
• Revealed purpose of dispensers
• Instructed on proper badge position
• Discovered nursing and ancillary staff issues that led to non-participation scores
Workflow Issues Causing Non-Compliance

- Physical therapy walking in and out of patient rooms while gloved
- Environmental services cleaning room, and walking out of room to gather supplies
- Entering/exiting empty rooms to search for equipment
- Emergency situations – exiting room to gather equipment
Encouraged comradery
Rewarded best-performing groups
**Individual Feedback**

- Publicly rewarded high achievers
- Privately approached those with low scores
- Engaged staff
- Encouraged self-governance

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Reviewed Data at Every Stage

Example data
Number of Observed Opportunities (8-week period)

98,530

*2 month period for 3 units. Previously requested 10 observations/month/unit)

164,117% increase in observations
Result: Increased Hand Hygiene

- **Staff Education**: +82%*
- **Group Feedback**: +98%*
- **Individual Feedback**: +210%*
- **Continued Use**: +309%*

* Percent increase from measured baseline
Key Success Factors

- Commitment of leadership
- Importance of champion
- Emphasis on patient safety
- Positive reinforcement / rewards
- Friendly competition among departments / groups
- Support from vendor (training, tweaking of rules)
A Review of Benefits Realized for the Value of Health IT

**Satisfaction:**
- Patient; Provider; Staff; Other

**Improved Patient Satisfaction**
- Improved processes through response time data

**Treatment / Clinical:**
- Safety; Quality of Care; Efficiency

**Improved Hand Hygiene = Higher Quality, Safer Care**
- 209% increase

**Electronic Information / Data:**
- Evidence Based Medicine; Data Sharing and Reporting

**Real-time 24/7 Hand Hygiene Data**
- 98,530 opportunities observed
- 167,117% increase in observations

**Prevention and Patient Education:**
- Prevention; Patient Education

**Prevention**
- Possible reduction in HAIs (data to be evaluated after longer period of use)

**Savings:**
- Financial / Business; Efficiency Savings; Operational Savings

**Cost Savings**
- As hand hygiene increases and infections are reduced, the cost of treating these infections will also be reduced. Further, the hospital will avoid lost reimbursement.

http://www.himss.org/ValueSuite
Questions?

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